

§ 53.01-3

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(b) The material approved for incorporation by reference in this part and the sections affected are:

*American Society of Mechanical Engineers
(ASME) International*

Three Park Avenue, New York, NY 10016—5990

Boiler and Pressure Vessel Code, Section IV, Heating Boilers, July 1989
with 1989 addenda....53.01-5; 53.01-10; 53.05-1; 53.05-3; 53.05-5; 53.10-1; 53.10-3; 53.10-10; 53.10-15; 53.12-1

[CGD 88-032, 56 FR 35821, July 29, 1991, as amended by CGD 95-072, 60 FR 50462, Sept. 29, 1995; CGD 96-041, 61 FR 50727, Sept. 27, 1996; USCG-1999-6216, 64 FR 53224, Oct. 1, 1999]

§ 53.01-3 Adoption of section IV of the ASME Code.

(a) Heating boilers shall be designed, constructed, inspected, tested, and stamped in accordance with section IV of the ASME (American Society of Mechanical Engineers) Code as limited, modified, or replaced by specific requirements in this part. The provisions in the appendices to section IV of the ASME Code are adopted and shall be followed when the requirements in section IV make them mandatory. For general information Table 53.01-1(a) lists the various paragraphs in section IV of the ASME Code which are limited, modified, or replaced by regulations in this part.

TABLE 53.01-1(A)—LIMITATIONS AND MODIFICATIONS IN THE ADOPTION OF SECTION IV OF THE ASME CODE

Paragraphs in section IV, ASME Code ¹ and disposition	Unit of this part
HG-100 modified by	53.01-5(b)
HG-101 replaced by	53.01-10
HG-400 modified by	53.05-1
HG-400.2 modified by	53.05-2
HG-401 modified by	53.05-1
HG-401.2 modified by	53.05-3
HG-500 through HG-540 modified by	53.10-3

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TABLE 53.01-1(A)—LIMITATIONS AND MODIFICATIONS IN THE ADOPTION OF SECTION IV OF THE ASME CODE—Continued

Paragraphs in section IV, ASME Code ¹ and disposition	Unit of this part
HG-600 through HG-640 modified by	53.12-1

¹The references to specific provisions in the ASME Code are coded. The first letter "H" refers to section IV. The letter following "H" refers to a part or subpart in section IV. The number following the letters refers to the paragraph so numbered in the text of the part or subpart in section IV.

(b) References to the ASME Code, such as paragraph HG-307, indicate:

H=Section IV, Heating Boilers, ASME Code.

G=Part containing general requirements.

3=Article in part.

307=Paragraph within Article 3.

(c) When a paragraph or a section of the regulations in this part relates to material in section IV of the ASME Code, the relationship with the code will be shown immediately following the heading of the section or at the beginning of the paragraph as follows:

(1) (Modifies H____.) This indicates that the material in H____ is generally applicable but is being altered, amplified or augmented.

(2) (Replaces H____.) This indicates that H____ does not apply.

(3) (Reproduces H____.) This indicates that H____ is being identically reproduced for convenience, not for emphasis.

[CGFR 68-82, 33 FR 18826, Dec. 18, 1968, as amended by CGFR 69-127, 35 FR 9976, June 17, 1970; CGD 81-79, 50 FR 9435, Mar. 8, 1985. Re-designated and amended by CGD 88-032, 56 FR 35821, July 29, 1991]

§ 53.01-5 Scope (modifies HG-100).

(a) The regulations in this part apply to steam heating boilers, hot water boilers (which include hot water heating boilers and hot water supply boilers), and to appurtenances thereto. The requirements in this part shall be used in conjunction with section IV of the ASME Code. Table 54.01-5(a) of this subchapter gives a breakdown by parts in this subchapter of the regulations governing various types of pressure vessels and boilers.

(b) (Modifies HG-100.) The requirements of Part HG of section IV, Heating Boilers, of the ASME Code shall be

used except as noted otherwise in this part.

[CGFR 68-82, 33 FR 18826, Dec. 18, 1968, as amended by CGD 81-79, 50 FR 9435, Mar. 8, 1985]

§ 53.01-10 Service restrictions and exceptions (replaces HG-101).

(a) *General.* The service restrictions and exceptions shall be as indicated in this section in lieu of the requirements in HG-101 of the ASME Code.

(b) *Service restrictions.* (1) Boilers of wrought materials shall be restricted to a maximum of 103 kPa gage (15 psig) for steam and a maximum of 689 kPa (100 psig) or 121 °C (250 °F) for hot water. If operating conditions exceed these limits, design and fabrications shall be in accordance with part 52 of this subchapter.

(2) Boilers of cast iron materials shall be restricted to a maximum of 103 kPa gage (15 psig) for steam and to a maximum of 206 kPa gage (30 psig) or 121 °C (250 °F) for hot water.

(c) *Hot water supply boilers.* (1) Electrically fired hot water supply boilers which have a capacity not greater than 454 liters (120 gallons), a heat input not greater than 58.6 kilowatts (200,000 B.t.u. per hour), and are listed as approved under Underwriters' Laboratories Standard 174 or 1453 are exempted from the requirements of this part provided they are protected by a pressure relief device. This relief device need not comply with § 53.05-2.

(2) Oil fired hot water supply boilers shall not be exempted from the requirements of this part on the basis of size or heat input.

(d) Exhaust gas type boilers shall be restricted to a working pressure equal to or less than 103 kPa gage (15 psig) and an operating temperature equal to or less than 454 °C (850 °F). The design temperature of parts exposed to the exhaust gas must be the maximum temperature that could normally be produced by the source of exhaust gas. This temperature shall be verified by testing or by the manufacturer of the engine or other equipment producing the exhaust.

(e) Heating boilers whose operating conditions are within the service restrictions of § 53.01-10(b)(1) may be constructed in accordance with section I of

the ASME Code. In addition, these heating boilers must:

(1) Be stamped with the appropriate ASME Code symbol in accordance with PG-104 through PG-113 of the ASME Code;

(2) Meet the service restrictions of § 53.01-10(b)(2) if made of cast iron;

(3) Have safety valves which meet the requirements of § 52.01-120 of this subchapter;

(4) If a hot water supply boiler, have a temperature relief valve or a pressure-temperature relief valve in accordance with § 53.05-2(c);

(5) If automatically controlled, meet the applicable requirements in part 63 of this subchapter; and

(6) Meet the inspection and test requirements of § 53.10-3.

(f) *Controls and miscellaneous accessories.* Refer to part 63 of this subchapter for the requirements governing controls and miscellaneous accessories.

[CGFR 68-82, 33 FR 18826, Dec. 18, 1968, as amended by CGD 81-79, 50 FR 9435, Mar. 8, 1985]

Subpart 53.05—Pressure Relieving Devices (Article 4)

SOURCE: CGD 81-79, 50 FR 9435, Mar. 8, 1985, unless otherwise noted.

§ 53.05-1 Safety valve requirements for steam boilers (modifies HG-400 and HG-401).

(a) The pressure relief valve requirements and the safety valve requirements for steam boilers must be as indicated in HG-400 and HG-401 except as noted otherwise in this section.

(b) Each steam boiler must have at least one safety valve.

§ 53.05-2 Relief valve requirements for hot water boilers (modifies HG-400.2).

(a) The relief valve requirements for hot water boilers must be as indicated in article 4 of section IV of the ASME Code except as noted otherwise in this section.

(b) *Hot water heating boilers.* Each hot water heating boiler must have at least one safety relief valve.

(c) *Hot water supply boilers.* Each hot water supply boiler must have at least